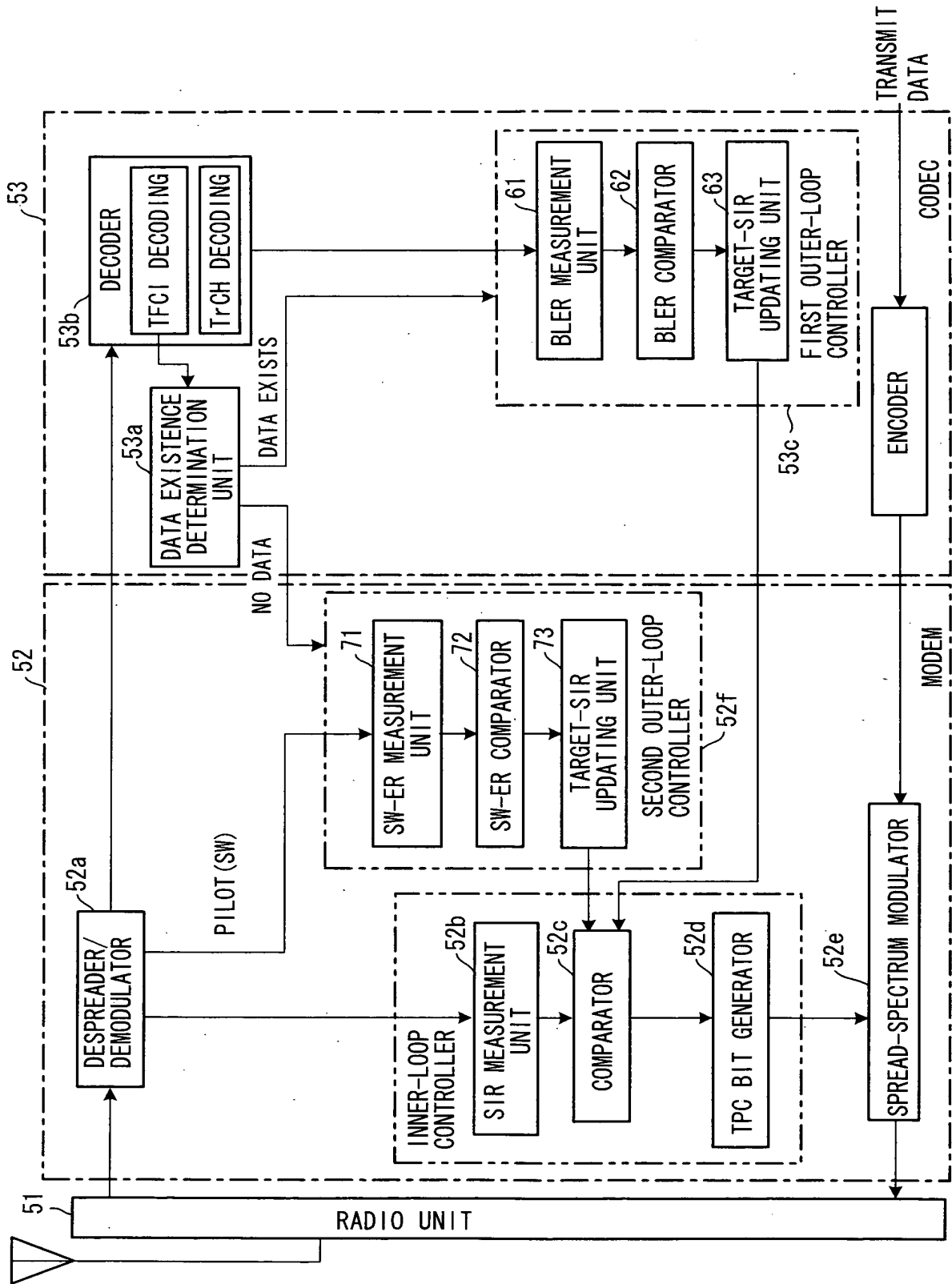
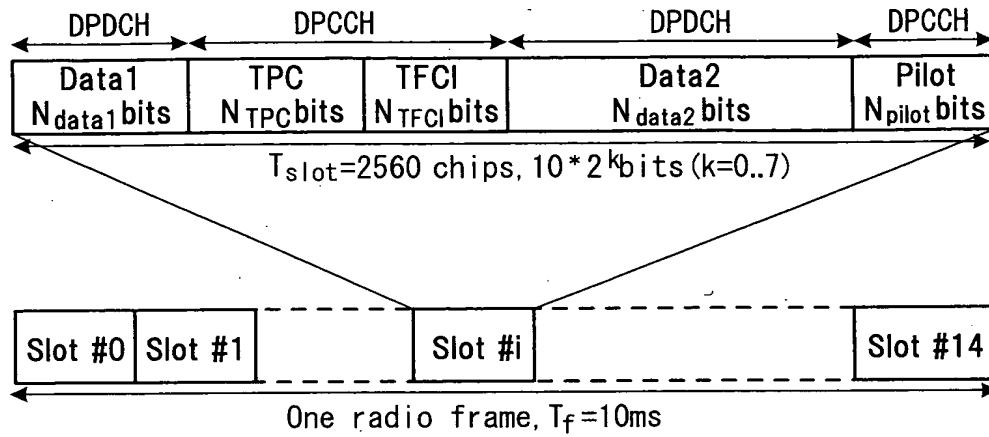


FIG. 1



**FIG. 2****FIG. 3**

|         | N <sub>pilot</sub> =2 |    |    | N <sub>pilot</sub> =4 |    |    | N <sub>pilot</sub> =8 |    |    |    | N <sub>pilot</sub> =16 |    |    |    |    |    |    | N <sub>pilot</sub> =4 |  |
|---------|-----------------------|----|----|-----------------------|----|----|-----------------------|----|----|----|------------------------|----|----|----|----|----|----|-----------------------|--|
| Symbol# | 0                     | 0  | 1  | 0                     | 1  | 2  | 3                     | 0  | 1  | 2  | 3                      | 4  | 5  | 6  | 7  | 0  | 1  |                       |  |
| Slot #0 | 01                    | 01 | 10 | 11                    | 00 | 00 | 10                    | 11 | 00 | 00 | 10                     | 11 | 00 | 00 | 10 | 01 | 10 |                       |  |
| 1       | 10                    | 10 | 10 | 11                    | 00 | 00 | 01                    | 11 | 00 | 00 | 01                     | 11 | 10 | 00 | 10 | 10 | 01 |                       |  |
| 2       | 11                    | 11 | 10 | 11                    | 11 | 00 | 00                    | 11 | 11 | 00 | 00                     | 11 | 10 | 00 | 11 | 11 | 00 |                       |  |
| 3       | 10                    | 10 | 10 | 11                    | 10 | 00 | 01                    | 11 | 10 | 00 | 01                     | 11 | 00 | 00 | 00 | 10 | 01 |                       |  |
| 4       | 00                    | 00 | 10 | 11                    | 11 | 00 | 11                    | 11 | 11 | 00 | 11                     | 11 | 01 | 00 | 10 | 00 | 11 |                       |  |
| 5       | 01                    | 01 | 10 | 11                    | 00 | 00 | 10                    | 11 | 00 | 00 | 10                     | 11 | 11 | 00 | 00 | 01 | 10 |                       |  |
| 6       | 01                    | 01 | 10 | 11                    | 10 | 00 | 10                    | 11 | 10 | 00 | 10                     | 11 | 01 | 00 | 11 | 01 | 10 |                       |  |
| 7       | 00                    | 00 | 10 | 11                    | 10 | 00 | 11                    | 11 | 10 | 00 | 11                     | 11 | 10 | 00 | 11 | 00 | 11 |                       |  |
| 8       | 11                    | 11 | 10 | 11                    | 00 | 00 | 00                    | 11 | 00 | 00 | 00                     | 11 | 01 | 00 | 01 | 11 | 00 |                       |  |
| 9       | 01                    | 01 | 10 | 11                    | 01 | 00 | 10                    | 11 | 01 | 00 | 10                     | 11 | 01 | 00 | 01 | 01 | 10 |                       |  |
| 10      | 11                    | 11 | 10 | 11                    | 11 | 00 | 00                    | 11 | 11 | 00 | 00                     | 11 | 00 | 00 | 10 | 11 | 00 |                       |  |
| 11      | 00                    | 00 | 10 | 11                    | 01 | 00 | 11                    | 11 | 01 | 00 | 11                     | 11 | 00 | 00 | 01 | 00 | 11 |                       |  |
| 12      | 00                    | 00 | 10 | 11                    | 10 | 00 | 11                    | 11 | 10 | 00 | 11                     | 11 | 11 | 00 | 00 | 00 | 11 |                       |  |
| 13      | 10                    | 10 | 10 | 11                    | 01 | 00 | 01                    | 11 | 01 | 00 | 01                     | 11 | 10 | 00 | 01 | 10 | 01 |                       |  |
| 14      | 10                    | 10 | 10 | 11                    | 01 | 00 | 01                    | 11 | 01 | 00 | 01                     | 11 | 11 | 00 | 11 | 11 | 01 |                       |  |

SW BITS IN PILOT BITS (EXAMPLE) (SHADED PORTIONS INDICATE SW-BITS)

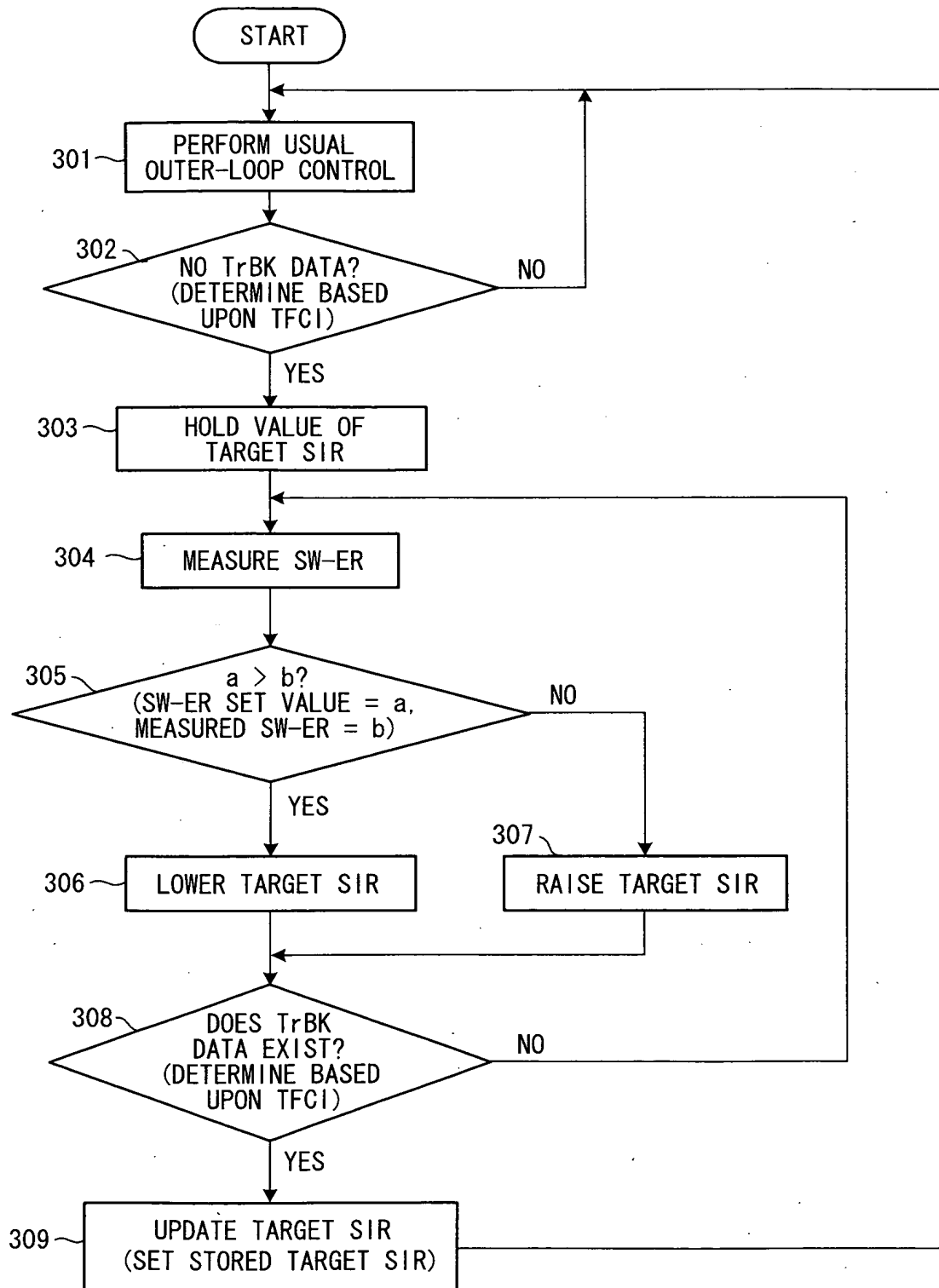
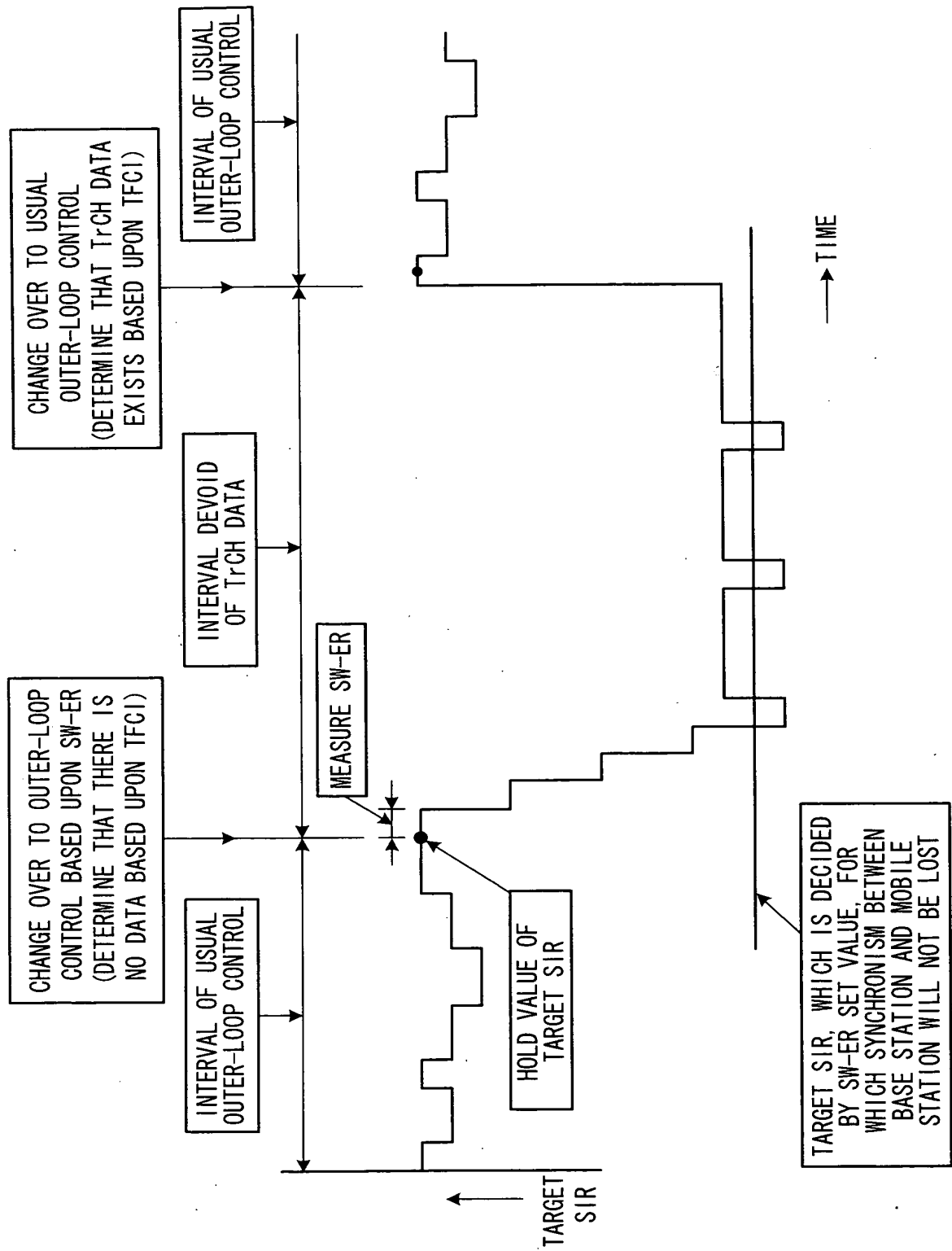
**FIG. 4**

FIG. 5



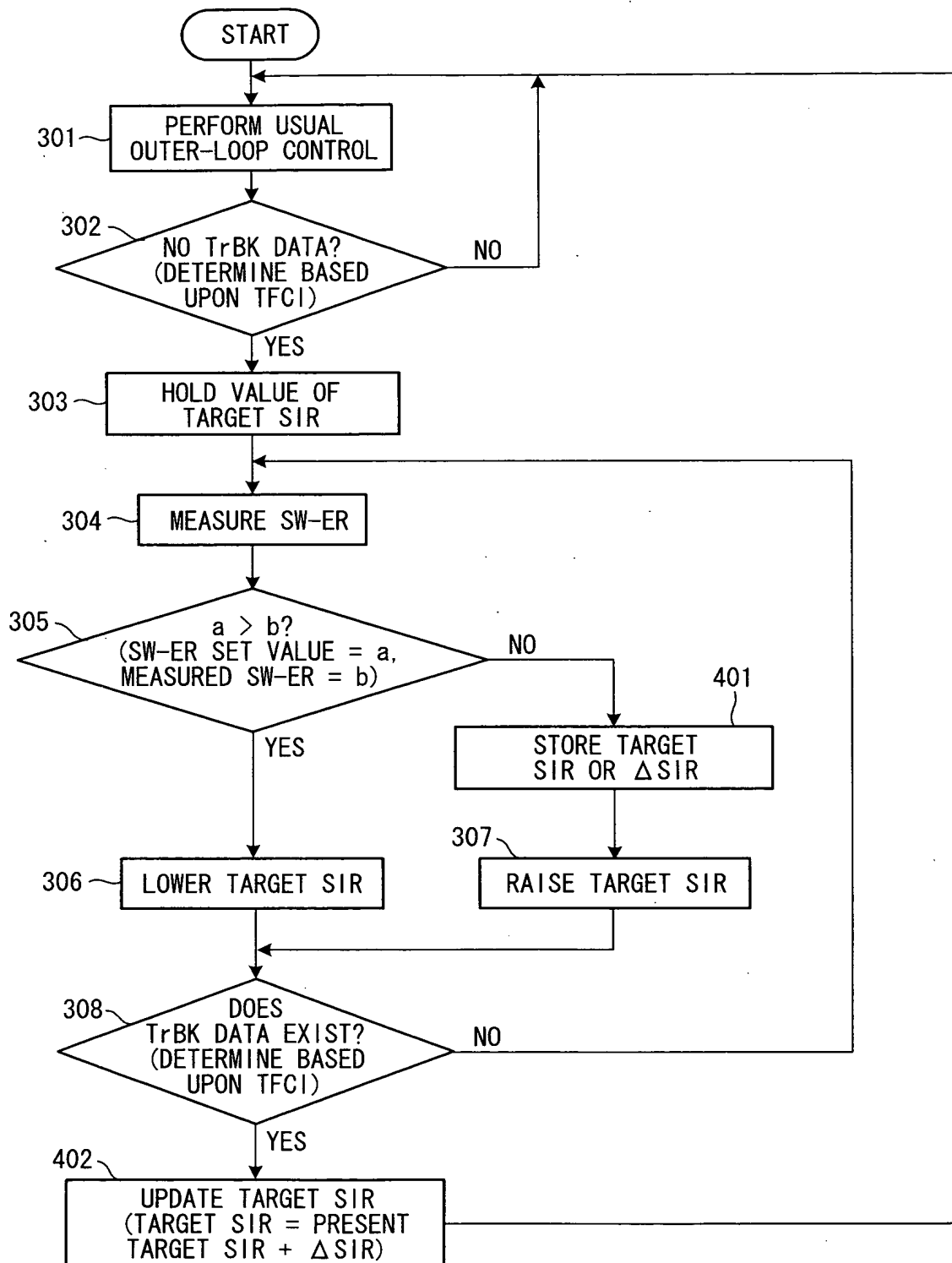
**FIG. 6**

FIG. 7

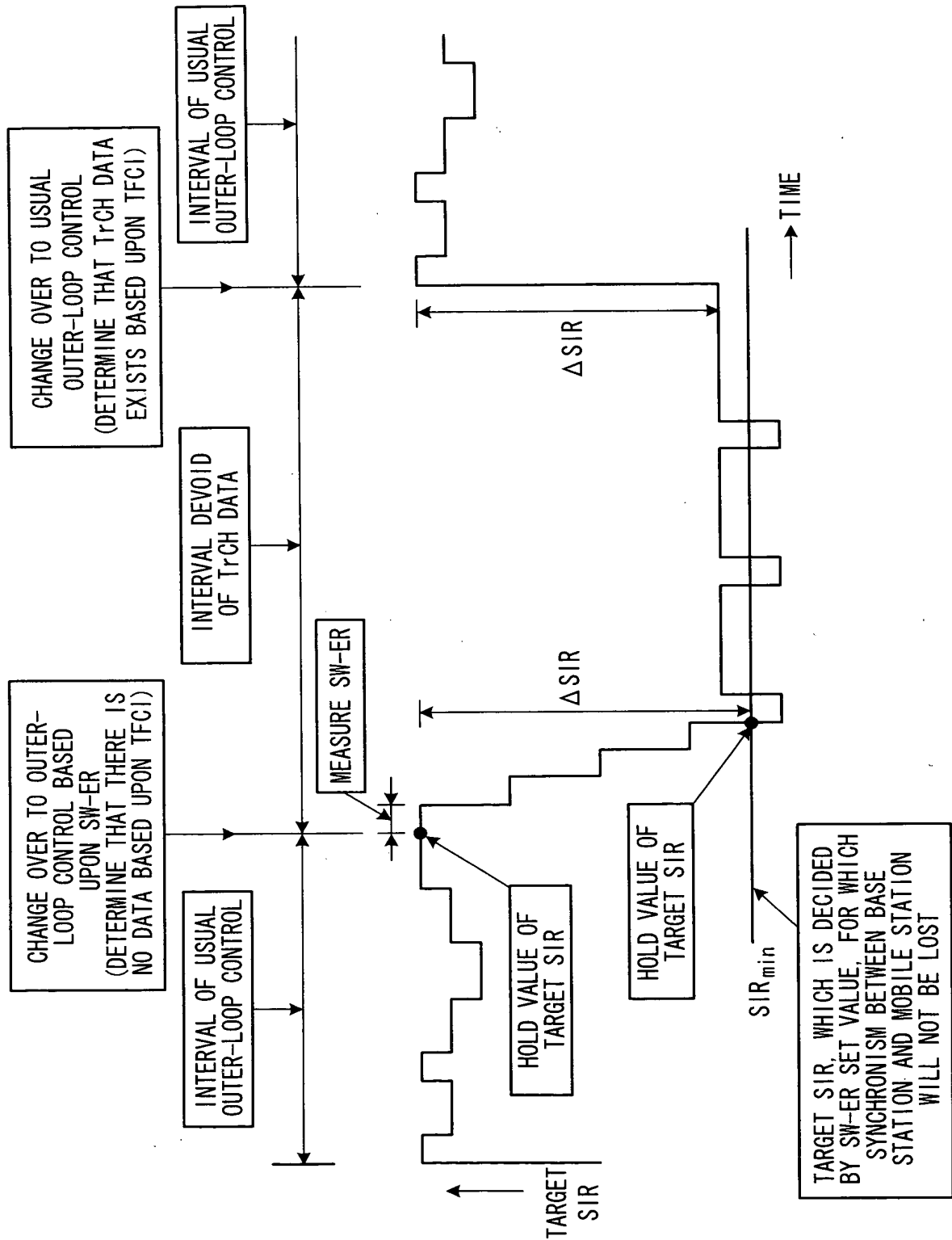
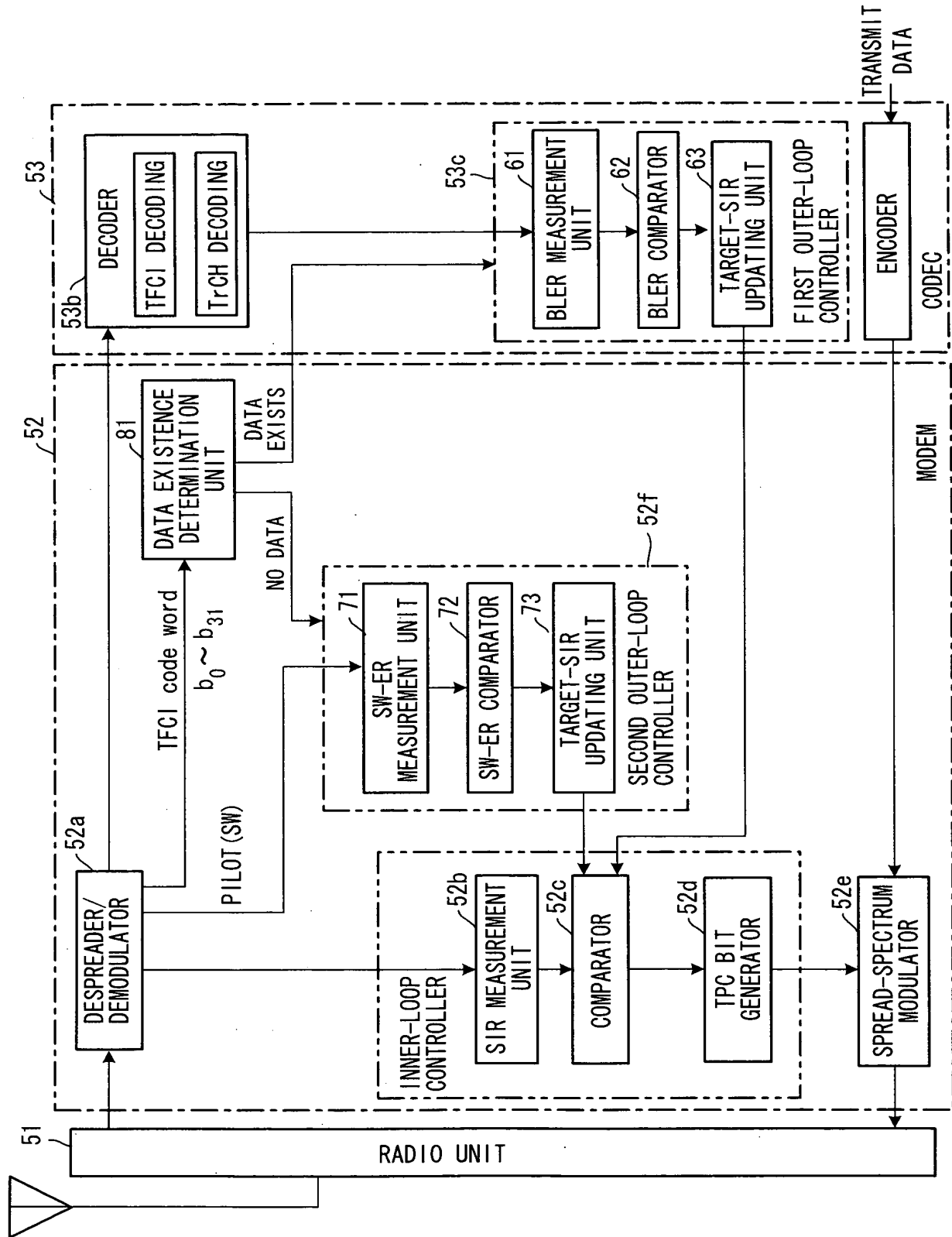


FIG. 8



**FIG. 9**

TFCI  
(10 bits)  
 $a_9 \cdots a_0$

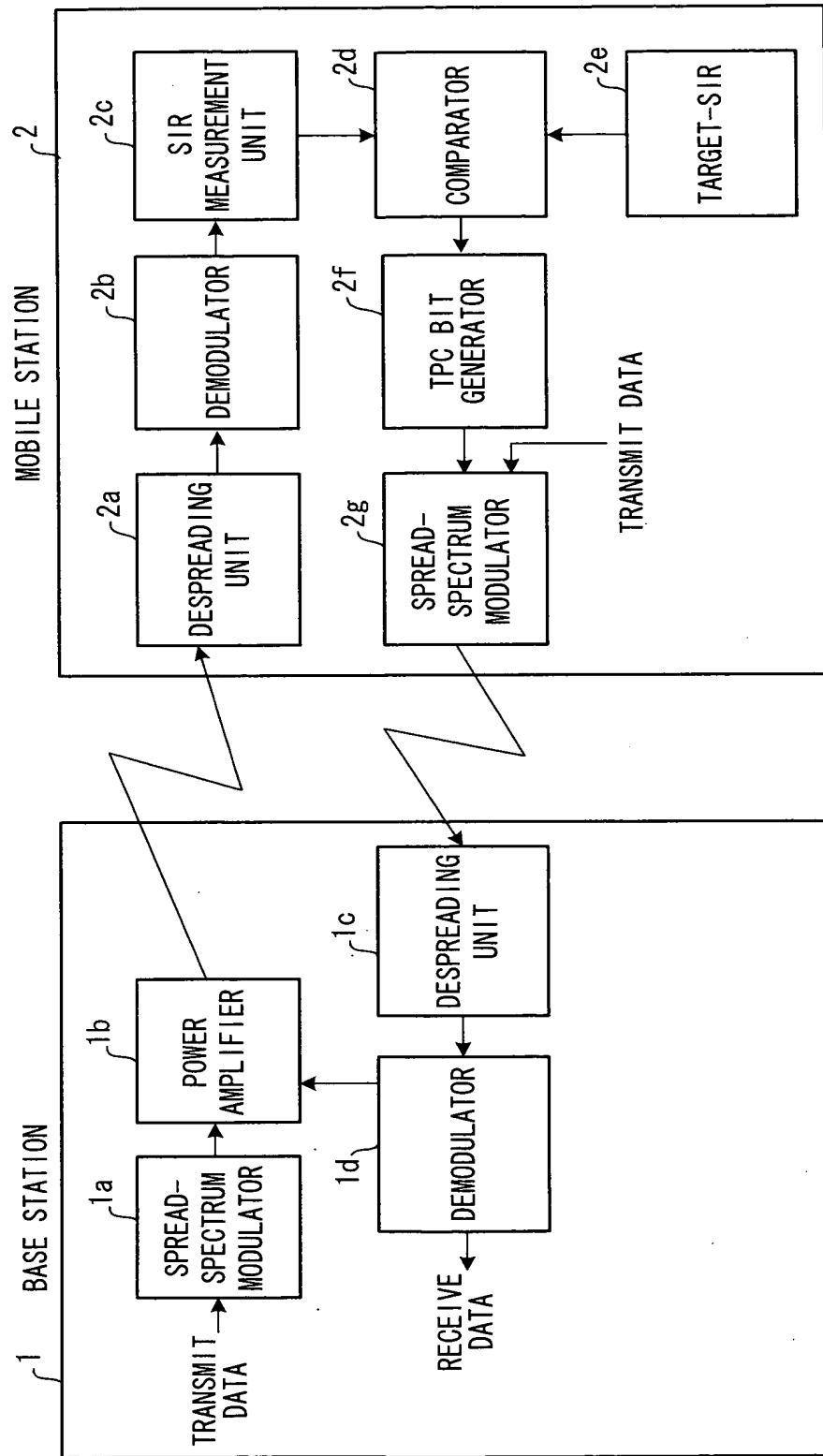
(32, 10) sub-code of  
second order  
Read-Muller code

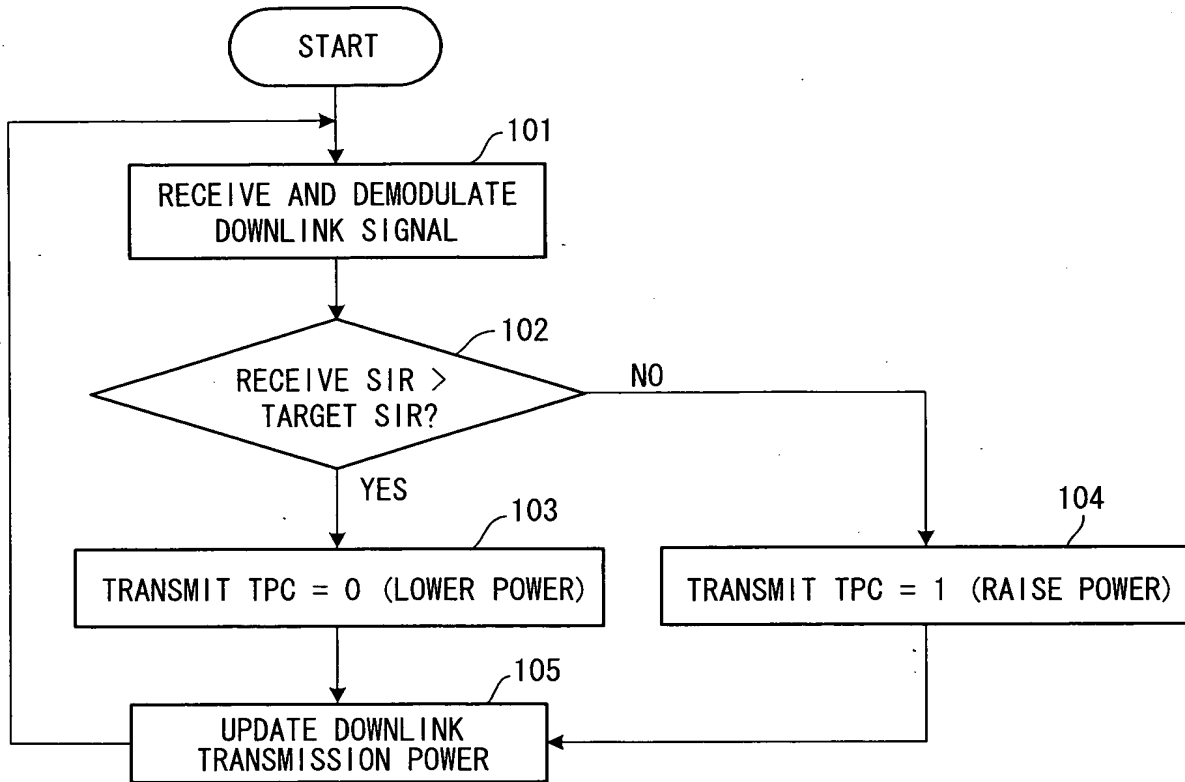
TFCI code  
word  
 $b_0 \cdots b_{31}$

| i  | M <sub>i,0</sub> | M <sub>i,1</sub> | M <sub>i,2</sub> | M <sub>i,3</sub> | M <sub>i,4</sub> | M <sub>i,5</sub> | M <sub>i,6</sub> | M <sub>i,7</sub> | M <sub>i,8</sub> | M <sub>i,9</sub> |
|----|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| 0  | 1                | 0                | 0                | 0                | 0                | 1                | 0                | 0                | 0                | 0                |
| 1  | 0                | 1                | 0                | 0                | 0                | 1                | 1                | 0                | 0                | 0                |
| 2  | 1                | 1                | 0                | 0                | 0                | 1                | 0                | 0                | 0                | 1                |
| 3  | 0                | 0                | 1                | 0                | 0                | 1                | 1                | 0                | 1                | 1                |
| 4  | 1                | 0                | 1                | 0                | 0                | 1                | 0                | 0                | 0                | 1                |
| 5  | 0                | 1                | 1                | 0                | 0                | 1                | 0                | 0                | 1                | 0                |
| 6  | 1                | 1                | 1                | 0                | 0                | 1                | 0                | 1                | 0                | 0                |
| 7  | 0                | 0                | 0                | 1                | 0                | 1                | 0                | 1                | 1                | 0                |
| 8  | 1                | 0                | 0                | 1                | 0                | 1                | 1                | 1                | 1                | 0                |
| 9  | 0                | 1                | 0                | 1                | 0                | 1                | 1                | 0                | 1                | 1                |
| 10 | 1                | 1                | 0                | 1                | 0                | 1                | 0                | 0                | 1                | 1                |
| 11 | 0                | 0                | 1                | 1                | 0                | 1                | 0                | 1                | 1                | 0                |
| 12 | 1                | 0                | 1                | 1                | 0                | 1                | 0                | 1                | 0                | 1                |
| 13 | 0                | 1                | 1                | 1                | 0                | 1                | 1                | 0                | 0                | 1                |
| 14 | 1                | 1                | 1                | 1                | 0                | 1                | 1                | 1                | 1                | 1                |
| 15 | 1                | 0                | 0                | 0                | 1                | 1                | 1                | 1                | 0                | 0                |
| 16 | 0                | 1                | 0                | 0                | 1                | 1                | 1                | 1                | 0                | 1                |
| 17 | 1                | 1                | 0                | 0                | 1                | 1                | 1                | 0                | 1                | 0                |
| 18 | 0                | 0                | 1                | 0                | 1                | 1                | 0                | 1                | 1                | 1                |
| 19 | 1                | 0                | 1                | 0                | 1                | 1                | 0                | 1                | 0                | 1                |
| 20 | 0                | 1                | 1                | 0                | 1                | 1                | 0                | 0                | 1                | 1                |
| 21 | 1                | 1                | 1                | 0                | 1                | 1                | 0                | 1                | 1                | 1                |
| 22 | 0                | 0                | 0                | 1                | 1                | 1                | 0                | 1                | 0                | 0                |
| 23 | 1                | 0                | 0                | 1                | 1                | 1                | 1                | 1                | 0                | 1                |
| 24 | 0                | 1                | 0                | 1                | 1                | 1                | 1                | 0                | 1                | 0                |
| 25 | 1                | 1                | 0                | 1                | 1                | 1                | 1                | 0                | 0                | 1                |
| 26 | 0                | 0                | 1                | 1                | 1                | 1                | 0                | 0                | 1                | 0                |
| 27 | 1                | 0                | 1                | 1                | 1                | 1                | 1                | 1                | 0                | 0                |
| 28 | 0                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 0                |
| 29 | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                |
| 30 | 0                | 0                | 0                | 0                | 0                | 1                | 0                | 0                | 0                | 0                |
| 31 | 0                | 0                | 0                | 0                | 1                | 1                | 1                | 0                | 0                | 0                |



FIG. 10 PRIOR ART



**FIG. 11 PRIOR ART**

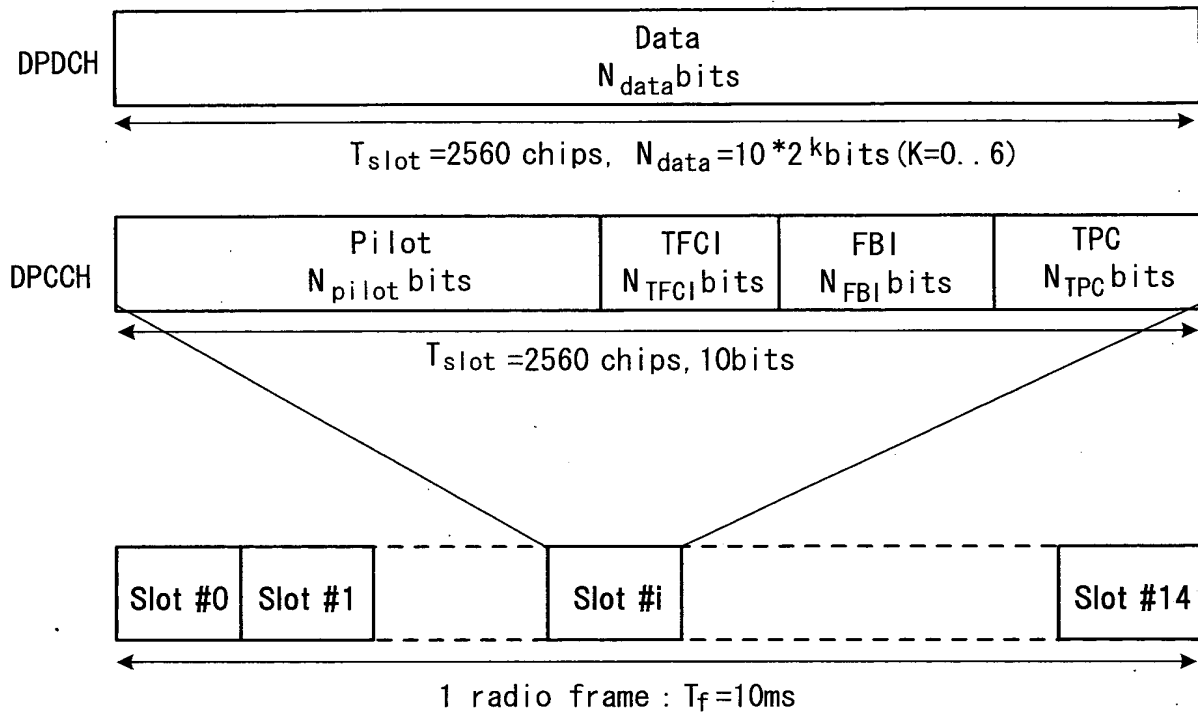
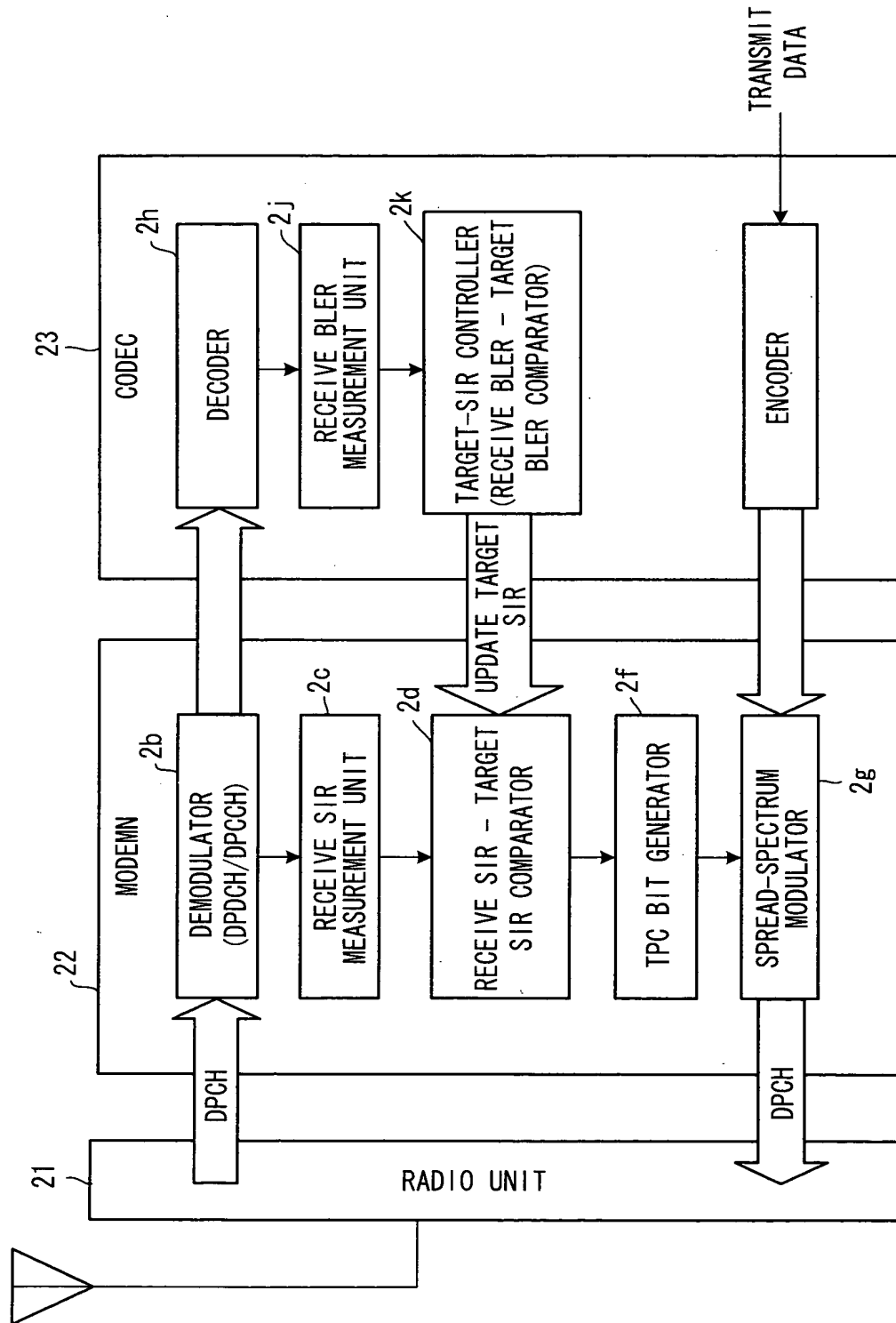
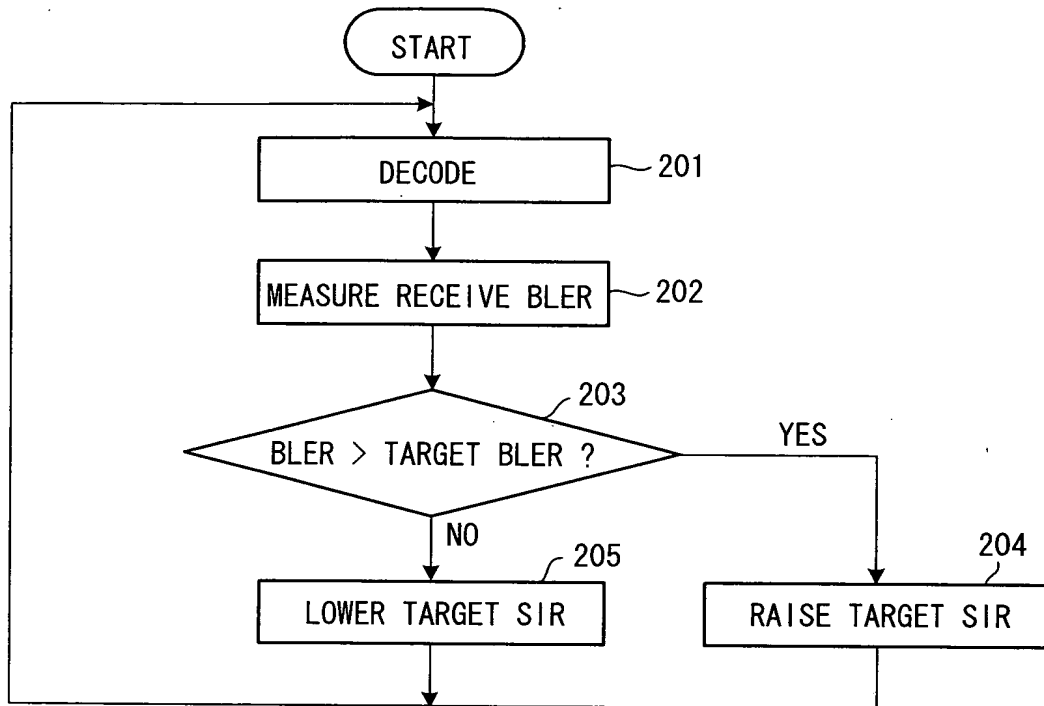
**FIG. 12 PRIOR ART**

FIG. 13 PRIOR ART



**FIG. 14 PRIOR ART****FIG. 15 PRIOR ART**